—Reivision of tariff periodically to improve internal generation of resources; and

—Proposals for fonaatioa of Joint Ventures with concerned State Governments.

Multion Breeding Programme of BARC

8139. SHRI RAM RATAN RAM: WiU the PRIME MINISTER be pleased to state:

(a) what are the high yielding varieties in agriculture which have been developed as a result of mutation breeding programme of the Bhabha Atomic Research Centre (BARC);

(b) whether this research has reached the farmers;

(c) what is its cost effectiveness; and

(d). what steps are being taken encourage the same?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI BHUVNESH CHATURVEDI): *(a)* to A number of improved selections have been evolved a» a result of mutation breading programme of the Bhabha Atomic Research Centre (BARC), Trom-bay. Of these, nineteen high yeilding varieties of crop plants have been released for commercial cultivation. These include eight varieties of groundnut, three of blackgram, two of greengram, two of pigeonpea, two of mustard and one each of rice and jut©.

(b) Yes. Sir.

(c) The cost for developing improved varieties has been minimal and home from the Research & Development bud-get. As far as the farmer is concerned, the cost of the seeds of these improved varieties will be similar to the cost of the certified seeds of any other rariety. They will get additional benefit because of a high yeild and improved quality of the seeds.

(d) In collaboration with the Indian Council of Agricultural Research and Stats Agricultural Universities breeder seeds of these varieites are being produced and supplied to National and State Seed Coxporaticns, wha in turm produce certified seeds for distributiOii to farmers.

Benefiib of Atomic Energy *in* Various fields

8140. SHRI V RAJESHWAJR. RAO: Will the PRIME MINISTER be pleased to state:

(a) to what extent the benefits of Atomic Energy have been assimilated by medicine, agriculture, industry and research fields;

(b) what steps are being taken to encourage the same; and

(c) what are our standards in comparison to the developed couatriea in this field?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI BHUVNESH GHATURVEM): (a) Nuclear medicine is practised in over 200 medical institutions in the countty With 30 others offering radioimmunoaasay service. Over 6,00,000 patient invesp-gations per year are carried out in India using radiopharmaceuticals. There are about 130 cobalt-60 tetetherapy units for the treatment of cancer.

Radioisotope tracer technology, nacleonic gauging and radiography are widely used by the Indian Industry for trouble-shooting, for Non Destructive testing and for online process control. Isotope techniques are used for surface water and ground water hydrology, seepage investigations in dams, canals and tunnels and bedload transport studies in ports and harbours. Steel-Authority of India Ltd. and Oil and Natural Gas Commission haw now established their own tracer groups for in-houae applications. About 500 org*-nisafions in the country are using industrial isotope radiography and about 42000 nucleonic control syatems are ta operation in the Indian industry for process control. Nuclear energy in the form ot radlationa and radioisotopes are being.